Armed Forces College of Medicine

AFCM

Cardiopulmonary module

Clinical Integrated Cases

Pretest 4

Question 1

Which artery supplies the AV node in 80% of the people?

a)Circumflex artery
b)Posterior interventricular artery
c)Anterior interventricular artery
d)Left conus artery
e)Right conus artery

Question 2

A 69-year-old man is admitted to the hospital with intense left chest pain. ECG reveals myocardial infarction in the anterior two thirds of the interventricular septum and left anterior ventricular wall. Which of the following arteries is most likely occluded?

a) Circumflex
b) Proximal right coronary
c) Proximal left coronary
d) Proximal left anterior interventricular artery
e) Posterior interventricular artery

Question 3

A 48-year-old man presents to the emergency department with chest pain that radiates to his jaw and left shoulder. Angina pectoris is suspected, and he is sent for an angiogram. The test reveals an atherosclerotic coronary artery that is 50% occluded. Which of the following features normally characterizes the myocardium under the electron microscope?

a.Well-developed sarcoplasmic reticulum.

b.T tubules present at Z lines.

c.Are multinucleated fibers.

d.Few mitochondria

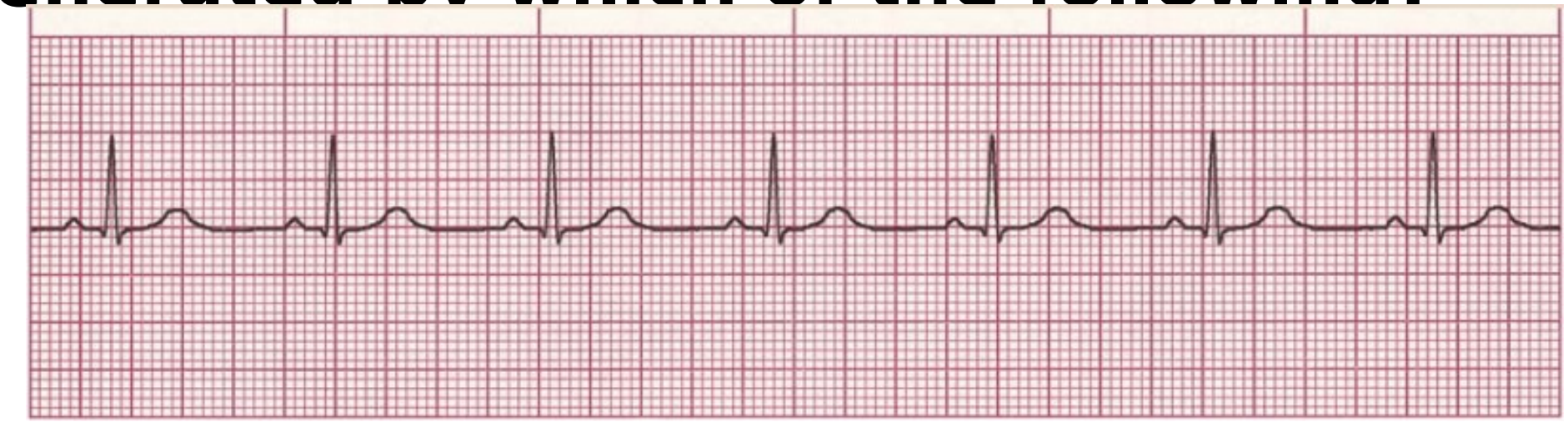
Question 4

A 60-year-old patient presented with chest pain that increase with exercise and is relieved by rest. For proper cardiac function all cardiac muscle fibers are interconnected at the intercalated discs whose longitudinal portion is formed mainly of which of the following type of junction?

a.Zonula adherents.
b.Desmosomes.
c.Fascia adherents.
d.Gap junctions.

Question 5

The rhythm shown in the following ECG trace of lead II is generated by which of the following?



a. AV node.
b. Purkinje fiber.
c. SA node.
d. Multiple ectopic foci in atrium.
e. Ectopic focus in ventricle.

Question 6

During ECG recording, lead V4 is placed in which of the following positions?

a.4th right intercostal space near the sternum.
b.4th left intercostal space near the sternum.
c.At the same level as V3 midclavicular line.
d.5th left intercostal space midclavicular line.
e.5th left intercostal space midaxillary line.

Question 7

Which of the following markers is considered as a negative predictor of acute myocardial infarction?

A.AST
B.Troponins
C.CK-MB
D.Myoglobin
E.LDH-1

Question 8

Which of the following is the predominant isozyme of LDH in cardiac muscle?

a.LDH-1
b.LDH-2
c.LDH-3
d.LDH-4
e.LDH-5

Question 9

A 67- year- old heavy smoker man was admitted to the emergency room complaining of severe chest pain radiating to his left shoulder and arm, not relieved by nitroglycerin. He had a history of poorly controlled hypertension. His laboratory investigations revealed elevated serum troponin. What is the microscopic feature most probably present in the myocardium?

a.Necrosis
b.Granulomas
c.Calcification
d.Suppuration

Question 10

A 61- year - old diabetic man complained of chest pain radiating to his left shoulder. The pain followed a quarrel with his neighbor and was relieved after receiving sublingual vasodilator. His serum LDL was elevated. Coronary angiography revealed narrowing of the lumen, especially at branching points. Which of the following abnormalities is most likely seen in his heart?

a.Subendocardial abscess
b.Myocardial fibrosis
c.Aortic valve rupture
d.Pericardial hemorrhage

Question 11

A patient was just diagnosed as a case of angina. The doctor prescribed some drugs to prevent a further attack. Which of the following could be the prescribed drug if it depletes intracellular cholesterol?

a)Aspirin
b)Metoprolol
c)Verapamil
d)Clopidogrel
e)Statins

Question 12

Which of the following is the beneficial effect of nitrates in ischemic chest pain?

a)causes dilation of the large veins, diminishes preload
b)increases the work done by the heart
c)increases cardiac contractility
d)causes bradycardia
e)stimulation of the baroreceptors

Question 13

The following is a risk factor for the development of atherosclerotic coronary artery disease:

A) Female gender younger than 50 years old
B) Male gender younger than 40 years old
C) Obesity
D) Athletes
E) Non-smoking

Question 14

In ECG, which of the following is <u>not</u> a normal finding:

a-Regular rhythm
b -Rate 60-100 bpm
c-Every p wave is followed by QRS wave
d-ST segment should be elevated not isoelectrical
e-T wave in the same direction as QRS complex

Question 15

A 55-year-old man comes to the physician because of severe, crushing, substernal chest pain for 2 hours while he was watching television. He has had similar chest pain in the past, but they were always associated with exertion and would resolve with rest. His temperature is 36.9°C (98.4°F), pulse is 120/min, blood pressure is 100/75 mm Hg, and respirations are 24/minute. Physical examination shows a diaphoretic male in acute distress. There are no murmurs heard on auscultation, and no jugular vein distension is observed. An ECG shows a 3-mm ST-segment elevation. The patient undergoes emergent coronary angiography, which shows complete occlusion of the left anterior descending coronary artery. Which of the following is the most likely sequence of events that led to this patient's present condition?

- A. A fatty streak has produced a fibrous plaque that has slowly enlarged to occlude the artery
- B. A fatty streak has produced a fibrous plaque that ruptured, leading to thrombotic occlusion of the coronary artery
- C. A fibrous lesion produced a fatty streak that has slowly enlarged to occlude the artery
- D. A fibrous lesion produced a fatty streak that ruptured, leading to thrombotic occlusion of the coronary artery
- E. Macrophages have exocytosed lipid to form a lipid embolus that has occluded the coronary artery

Question 16

A 54-year-old man comes to the emergency department three hours after the onset of severe chest pain that radiates to his left arm. The patient also complains of sweating and weakness in his extremities. His temperature is 37.3°C (99.1°F), blood pressure is 140/90 mm Hg, pulse is 80/min, and respirations. An ECG shows ST elevation in leads I, aVL, V_3–V_6. During his hospitalization, the patient is given fluids, nitroglycerin, aspirin, ACE inhibitor, statin, and a beta-blocker. Which of the following is the best blood test to initially establish this patient's diagnosis?

- A. Aspartate aminotransferase
- B. Creatine kinase-MB isozyme
- C. Lactate dehydrogenase-1 isozyme
- D. Total creatine kinase
- E. Troponins I and T

Thank
you